

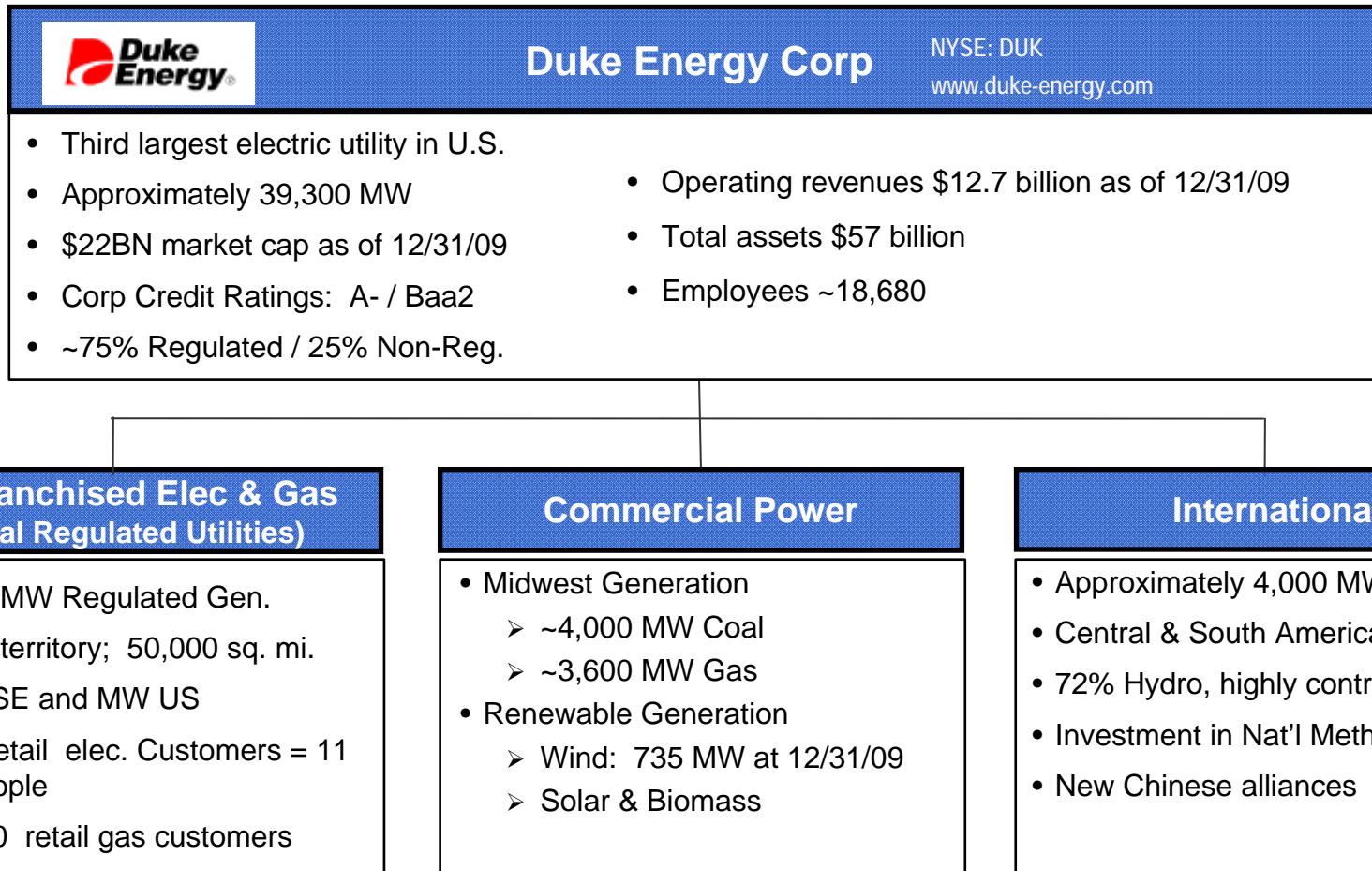
Conventional and Alternative Energy Options Finding the Right Balance



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About Duke Energy



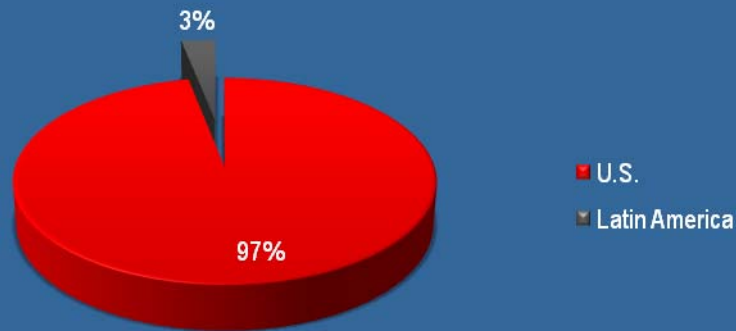
Addressing our Carbon Risk: "3, 12, 41"



CO₂ emissions declined from 108 million tons in 2008 to 94 million tons in 2009 due to reduced demand /use of coal generation and increased nuclear and hydro generation

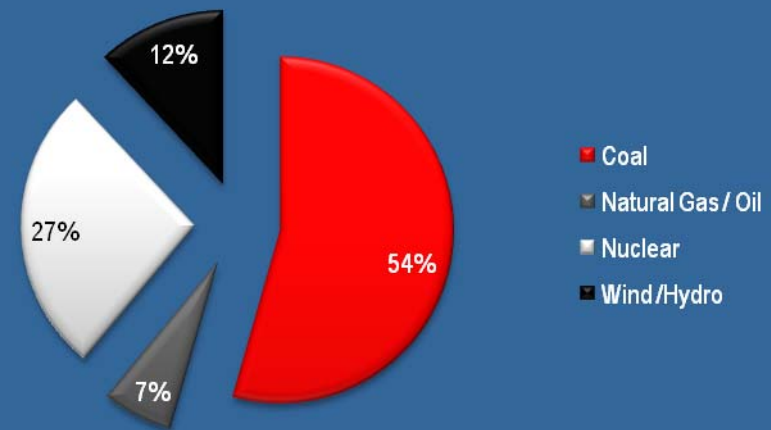
Almost 40 percent of the electricity generated in 2009 was from carbon-free-sources

2009 CO₂ Emissions from Power Generation – 93.7 Million Tons



Note: 2008 CO₂ emissions were 107,700 million tons

2009 Net Megawatt-Hour Generation



Duke Energy's 2009 CO₂ Emissions Intensity - .59

Building a Bridge to a Low-Carbon Economy



- De-carbonize our fleet: portfolio approach

- Expanding Renewable Energy Business
- Building Gas Generation
- Building Cleaner Coal Plants
- Planning for New Nuclear
- Modernize Electric Infrastructure/Smart grid



- Make our communities the most energy efficient in the world

- Develop and advance new regulatory policies for energy efficiency and lower emissions
- Empowered and informed consumers
- Intelligent electrification



Conventional and Renewables: Not Either/Or



Generation Option	Affordable	Reliable	Clean			
			CO ₂ Emissions	Water Required	Waste Produced	Land Required
Conventional						
Supercritical Pulverized						
Integrated Gasification Combined-Cycle (IGCC)						
Nuclear						
Combustion Turbine						
Combined Cycle						
Renewables						
Solar – Photovoltaic						
Wind						
Hydro						
Biomass						



Observations

- “Lower carbon” before “low carbon”
- Markets – and investors – hate uncertainty
 - Price on carbon
 - Long-term regulatory policy / incentives
- Be careful what you solve for; avoid the ‘fix that fails’
 - Balance low carbon with economic recovery/growth
 - Take a systems / sustainable view
- No supply “silver bullet”
 - A portfolio of options
- Context matters
- Global R&D
- New players emerging

Lessons Learned on Financial Mechanisms



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- Strive for simplicity and transparency
 - Speed and duration matter
 - Use all policy levers – but recognize that there are other ways to “pull” action
 - Codes and standards
 - Supply chain
 - Ensure alignment – beyond the obvious
 - Federal, state, local
 - Energy, environment, tax, legal, etc
 - Recognize differences
 - Need different policies/incentives at different stages of development
 - What works in one country (or state, province, region) may not work in another
 - Incentives vs. long-term subsidies